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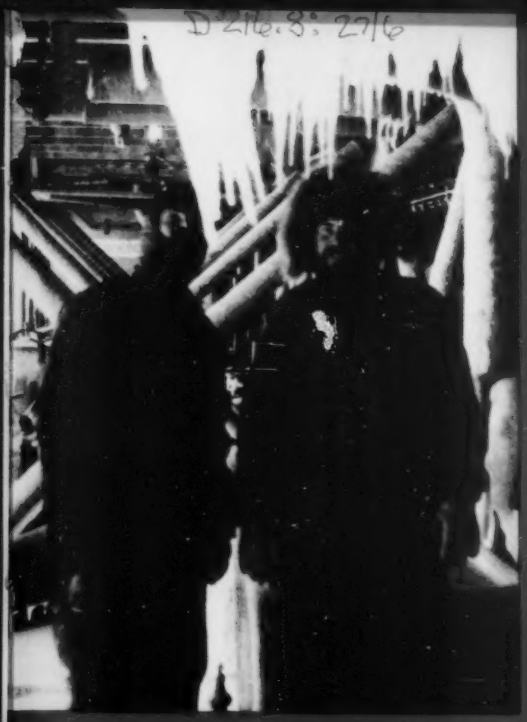

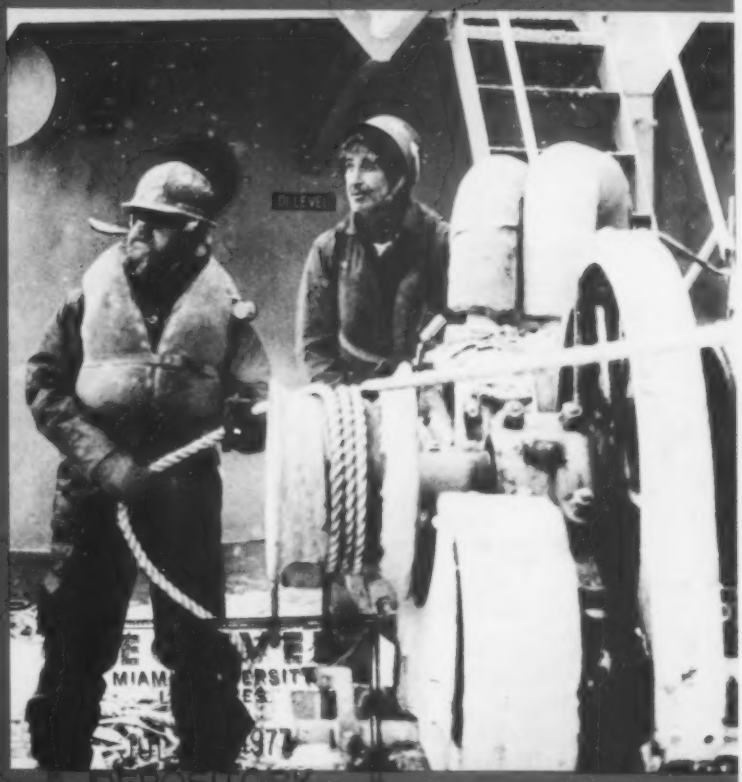

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Sealift

MAGAZINE OF THE MILITARY SEALIFT COMMAND
JUNE 1977

Thanks for the Memories, And for the Friendships.

As the date approaches when I will retire from active duty, I find that my feelings are both ambivalent in nature and difficult to articulate.

On one hand there is the great satisfaction derived from having achieved professional satisfaction in my chosen vocation, the military service of my country. That satisfaction, however, is not measured by the rank bestowed upon me or the tangible benefits that have been accumulated over 35 years of Navy life.

It is reflected in the many friendships that I have made, both friendships which have endured over the years and those that were temporary in nature because of the transient nature of military life. It is typified by the high esteem I have for all of those with whom I have shared challenges, problems and sometimes danger, and by the good times and satisfying experiences that far outweigh the more trying occasions.

It is difficult to explain—without sounding trite—my feelings toward the Navy and men and women, military and civilian, with whom I have been associated during my career. Perhaps a title of a formerly popular song best sums up the feeling I have as I prepare to retire. It expresses my regard for the members of Military Sealift Command and all of my previous associates. That title? "Thanks for the Memories."

Those words suggest that the past 35 years have been enjoyable—and they have. But, they also hold a promise for the future, a time to enjoy family and friends, and to take advantage of lessons learned and knowledge gained by focusing energy and effort on endeavors where individual rewards are less important than actions to influence changes that might improve our way of life.

That is not to suggest that I have a grand plan to change the world, or to make contributions which were impossible during my Navy career. To the contrary, I would hope in future years to continue to follow the principles which have long guided me in my own endeavors and in my associations with other people. The basic tenets of that philosophy have been efficiency, economy and originality.

In every responsibility or command which has been entrusted to me, I have attempted to assure that the job was accomplished in the most efficient manner, that it was completed without unnecessary expenditure of the taxpayer's dollar, and that the creative talents and professional skills of everyone involved were employed to the maximum degree.

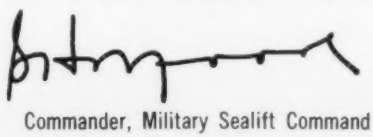
In my dealings with people, I have expected a great deal, but have not demanded perfection since perfection is neither probable or possible. However, people can and do fulfill high expectations, and my years in Military Sealift Command have proven that point again and again.

During the war years in South Vietnam, when I had the privilege of commanding MSC, Far East, I was continually impressed by the attitudes, skills and performance of those who manned U.S. flag ships, and by those who planned, directed and supported MSC operations.

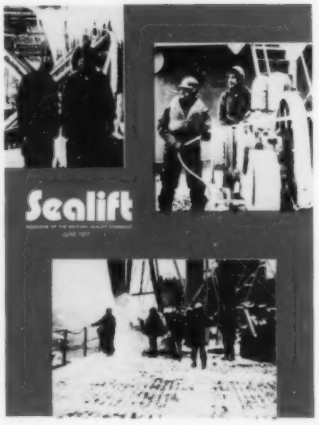
Two highlights of my recent years as the MSC commander were the evacuation of nearly 180,000 refugees from South Vietnam by crews of MSC controlled cargo ships, and the subsequent recovery of the Mayaguez with the help of six MSC volunteers. I have been equally impressed by the innovative and thoroughly reliable performance of those who operate our fleet support ships, special project ships and our tankers and dry cargo ships. The ashore staffs of MSC organizations also have been a source of pride for me.

Efficiency, economy and originality have been exemplified by MSC performance over the past 28 years, and your accomplishments have made my nearly 4½ years with the command some of the most enjoyable of my Navy career.

As I prepare to conclude my Navy life, I would like to thank each member of the command for the many contributions you have made and continue to make to U.S. security. It has been both a privilege and an honor to serve as your commander, and I wish the very best for each of you and for the organization you so ably represent.



Commander, Military Sealift Command



COVER: The crews of USNS Taluga and USS Roanoke toiled for three days in mother nature's deep freeze. Story on page 12.

Rear Adm. Sam H. Moore
Commander, Military Sealift Command

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Sealift

MAGAZINE OF THE MILITARY SEALIFT COMMAND

Vol. XXVII No. 6 Washington, D.C. June 1977

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Changes of Command

It's time again at MSC for farewells and greetings.

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Cold Weather Operations

Men and equipment of two fleet oilers are tested by wintry weather.

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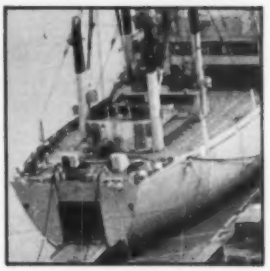

Sea Rescue

USNS Meteor goes to the rescue of a sinking yacht.

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Sealift, monthly magazine of the U.S. Navy's Military Sealift Command, is published in accordance with Department of the Navy Publications and Printing Regulations (NAVEXOS P-35). Opinions expressed are not necessarily those of the Navy Department. All original material may be reprinted providing credit is given Sealift. Address all correspondence to Legislative and Public Affairs Office, Military Sealift Command, Department of the Navy, Washington, D.C. 20390. Price 75 cents (single copy). Subscription price, $8.20 per year, $2.05 additional for foreign mailing. Also for sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Rear Admiral Johnson Submariner, Logistician

Rear Adm. John D. Johnson, Jr. will become the tenth commander of Military Sealift Command when he relieves Rear Adm. Sam H. Moore in a change of command ceremony scheduled to be held at the Washington Navy Yard June 30.

A Hail and Farewell party honoring the outgoing and new commanders will be held June 29 at the National Naval Medical Center Officers' Club, Bethesda, Md.

Edward Hidalgo, Assistant Secretary of the Navy for Manpower, Reserve Affairs and Logistics, will deliver the principal address.

Admiral Moore, commander of MSC since January 1975, is retiring after 35 years Navy service.

Admiral Johnson will take the helm of MSC already familiar with the command's increasing role in fleet support, having served as commander of Service Squadron Five and Service Group Three.

Admiral Johnson was born in Washington, D.C. and attended Harvard University before enlisting in the U.S. Naval Reserve in 1944.

After graduation from the Massachusetts Institute of Technology, he was commissioned an ensign in the Naval Reserve in June 1946. While assigned to the minesweeper USS Towhee, he was commissioned in the regular Navy.

After completing advanced submarine training at New London, Conn. in 1951, he served aboard the submarine USS Wahoo as part of the commissioning crew.

From 1955 to 1957 he was assistant plans officer for mining on the Mine Force Command staff, U.S. Pacific Fleet. He then attended the Naval War College, Newport, R.I. for one year. After graduation, he was named executive officer of the submarine USS Trench.

In 1960 he was appointed aide and flag lieutenant to the commander of the Second Fleet. Three years later he became sub-surface operations officer with Carrier Division 19.

He served in 1964 as submarine operations officer and navigator with Antisubmarine Warfare Group Five. Six months later, he began a year's study at the Air War College at Maxwell Air Force Base, Ala.

He was promoted to captain in 1967 and took command of the ammunition ship USS Pyro, and later the Navy stores ship USS Bellatrix, operating off Vietnam. In 1968, he was named project manager and chief of surveillance of the Joint Continental Defense Systems Integration, Joint Chiefs of Staff, Washington, D.C.

Rear Adm. John D. Johnson, Jr.

His promotion to rear admiral was approved by President Richard Nixon in 1973, and he took command of Task Force 73 in the western Pacific. He has been deputy director for logistics, Joint Chiefs of Staff, since 1975.

Admiral Moore was born in Rugby, Texas, April 11, 1918. He was graduated from East Texas State University in 1941 and was commissioned as an ensign in 1942. His first assignment at sea was as engineering officer of the minesweeper USS YMS-6 with the Atlantic Fleet.

During World War II, he served with both the Atlantic and Pacific Fleets. In 1945 he became commander of Mine Squadron 102 and in 1946 served as commanding officer of the minesweeper USS Density. In 1962, he assumed command of Destroyer Division 102 and was involved in the blockade of Cuba in late 1962.

Admiral Moore became commander of MSC, Far East in October 1968. He had under his direction approximately 60 MSC nucleus fleet ships, including tankers, cargo vessels, landing craft, plus MSC chartered barges and oceangoing carriers.

After being relieved as MSC, Far East commander, he served as director of budgets and reports for the Navy from August 1970 to July 1972, when he was named deputy comptroller of the Navy. He held that position until December 17, 1974, assuming command of MSC on Jan. 10, 1975. ⚓

Rear Admiral Moore Ends 35-Year Career

Rear Adm. Sam H. Moore

A military change of command, what is it? In simple terms it is nothing more than a transfer of authority from one commander to another. The transfer generally takes place during a ceremony which incorporates a number of traditional practices which recognize both the symbolic and practical aspects of the occasion.

The principals—the departing commander and his successor—have an obvious emotional involvement for assuming or relinquishing command of a worldwide organization having responsibility for strategic sealift support for all of the U.S. Armed Forces is a significant event in anyone's life.

A commander of a military organization may get to know some people very well from daily contact with them. Others he sees less often and the relationship is more formal. But, sooner or later, on a group or individual basis, a military commander has contact with every member of his command.

That is why some people are apprehensive about the appointment of a new commander. They wonder what he is like, and how they will get along with him. What are his primary interests? How does he feel about their own function? Is he somewhat distant or low key and casual in his dealings with his subordinates? During a change of command ceremony they will be both observing the ceremonial activity and measuring the new commander.

Others focus their attention on the departing commander. They may recall favorite anecdotes or accomplishments they shared with him, or they may be on hand primarily to wish him well in his next assignment or post-Navy retirement years.

In either case, it is the people involved and not the ceremony that is important. Thus, a change of command is more than a transfer of authority. It is more than an event required by protocol and tradition. The analogy may be overly simplistic, but in terms of the individual and the organizational family a change of command is rather like a divorce followed by an immediate remarriage. Considerable adjustment will be required.

For Rear Adm. John D. Johnson, Jr., assumption of the title of Commander, Military Sealift Command on June 30, 1977 is no doubt cause for pride and a sense of personal satisfaction. It is the extension of an already distinguished military career.

And yet it is likely that he has some apprehensions. MSC is a unique organization. Military unit though it may be, it is staffed largely by civilians who help manage a business-type operation with an annual revenue of $1 billion. Continuing coordination is required with maritime management, labor and several Federal agencies. And the command supports not only the Navy but also the Army, Air Force and Marine Corps.

One does not need ESP to know that the prospective MSC commander is wondering what kind of people he will be dealing with, and how they will react to his leadership and his managerial approach.

For Rear Admiral Sam H. Moore, the occasion is quite different. It marks the ending of a 35-year active duty career in the U.S. Navy. He will retire from the Navy on July 1, the day following the MSC change of command ceremony to be held in Leutze Park at the Washington Navy Yard.

Obviously, a few hundred words of written text can neither do justice to 35 years of Navy experience nor adequately describe the impact of his stewardship of MSC during the past 2½ years. However, a brief review of those years serves a double purpose. It illustrates what has happened and—for those who believe that history repeats itself—the type of problems the future may bring.

Admiral Moore assumed the mantle of MSC leadership in January 1975—having been reassigned from duty as deputy comptroller of the Navy. His finan-

cial management background was of immediate value. Skyrocketing prices for oil had driven up ship operating costs. That was reflected in the rates MSC has to pay for movement of military cargo aboard scheduled commercial liners—and by the higher cost of operating chartered vessels and its own nucleus fleet.

While escalating fuel costs could be promptly passed on to MSC by the fuel suppliers and ship owners, Defense approved tariffs could not be altered without the usual recommendation-study-review-approval cycle. Result was that MSC, an organization whose objective is to break even over the long term, was paying more for service provided than it was receiving from its "customers."

Adjustment of Defense Department approved tariffs helped put MSC operations in the black but Admiral Moore also initiated an all-out effort to reduce overhead costs. Size and configuration of the controlled fleet were studied, and unneeded or less productive ships were laid up or turned back to their owners as soon as possible. Sizing of the fleet was of particular concern to Admiral Moore throughout his tour as MSC commander—and several innovations resulted from that concern.

Size of the post Vietnam dry cargo MSC controlled fleet, for example, has been stabilized at 27 ships with Navy and Defense approval. Admiral Moore also recommended that Navy provide funding to maintain some ships in a reduced operating status when not needed to move cargo, a practice which enables MSC to maintain a more immediately responsive contingency sealift capability. He also has worked closely with the Maritime Administration to improve responsiveness of the National Defense Reserve Fleet.

A management innovation begun during Admiral Moore's 2½ years at the MSC helm was the scheduling of monthly reports to a Navy counterpart of a company board of directors. The board includes the Navy assistant secretaries for financial management and logistics and the deputy chief of naval operations for logistics.

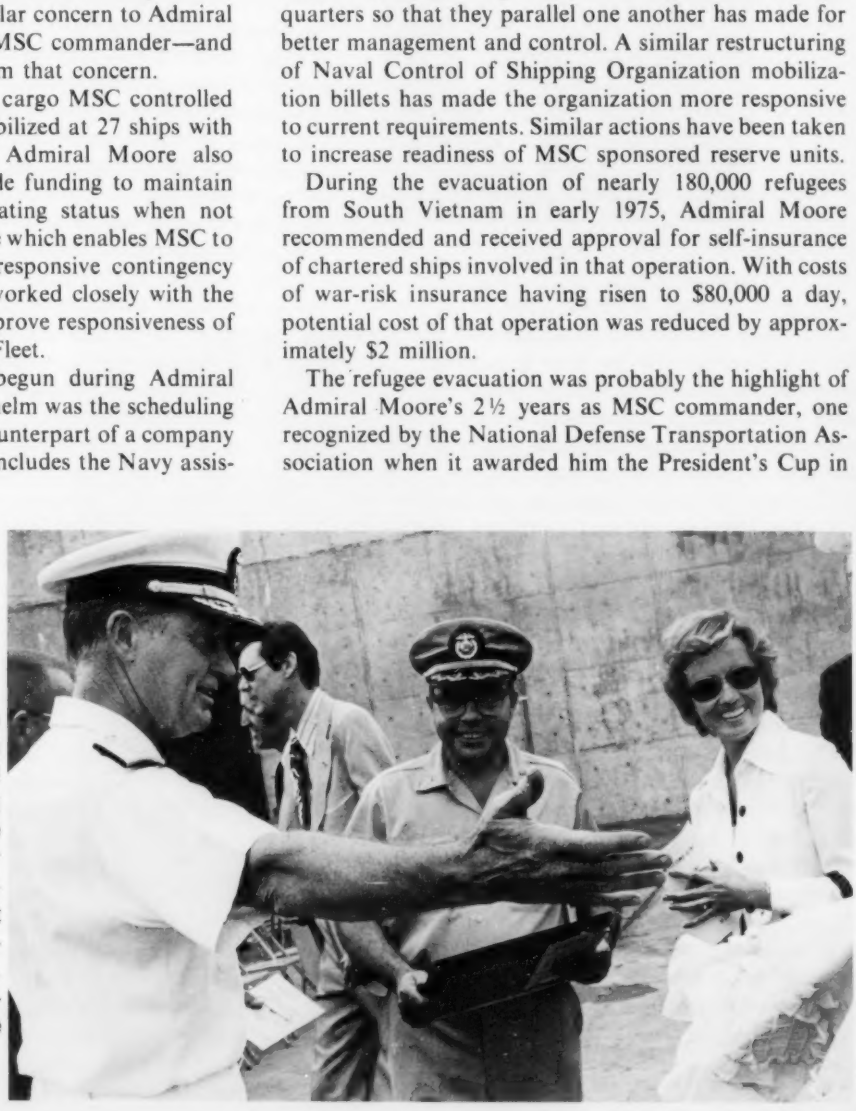
A measure of the success of that innovation, unique in a military organization, is provided by several programs which have been implemented. For example, by operating some ships at slower speeds and by negotiating with owners for the temporary return of chartered ships—when they could secure commercial employment—MSC reduced potential spending by nearly $7 million in 15 months.

Another $1 million in spending was avoided by effective management of MSC ship assets committed to Reforger '76—the move of an Army division's equipment to Europe for a NATO exercise. The four MSC controlled vessels maintained a full schedule of operations between the deployment-return phase of the exercise, avoiding the need to divert other ships or cargo.

Though no dollar value can be assigned to Admiral Moore's effort in 1976 to reorganize the command structure, streamlining of area commands and the headquarters so that they parallel one another has made for better management and control. A similar restructuring of Naval Control of Shipping Organization mobilization billets has made the organization more responsive to current requirements. Similar actions have been taken to increase readiness of MSC sponsored reserve units.

During the evacuation of nearly 180,000 refugees from South Vietnam in early 1975, Admiral Moore recommended and received approval for self-insurance of chartered ships involved in that operation. With costs of war-risk insurance having risen to $80,000 a day, potential cost of that operation was reduced by approximately $2 million.

The refugee evacuation was probably the highlight of Admiral Moore's 2½ years as MSC commander, one recognized by the National Defense Transportation Association when it awarded him the President's Cup in



It was a happy occasion in August 1975 when the Greenville Victory returned home after evacuating 10,000 South Vietnamese refugees. Six of her crewmen also helped recapture the Mayaguez. From left are Admiral Moore, Greenville Victory master Capt. Raymond Iacobacci and Admiral Moore's niece Debbie Alderman.

Admiral Moore congratulates Greenville Victory First Officer Clinton Harriman for his part in the recapture of the Mayaguez.

1976. The national award honored the most outstanding achievement in the field of transportation in 1975.

Anticipating evacuation requirements, the MSC commander began diverting cargo ships operating in the Southeast Asia area while official arrangements were still being made. Eventually, 13 MSC controlled ships and a number of tugs and barges were involved. At one point, some 16,600 refugees were carried at one time on a ship manned by only about 40 crewmen who fed and cared for them.

While the humanitarian element of that massive operation received most of the public attention, the behind the scenes activity—requiring worldwide communication and round the clock coordination with various State and Defense Department organizations, the maritime industry, and military commands—was handled by a hastily put-together MSC command and control center team headed by Admiral Moore.

Even before the evacuation of refugees began, MSC had been involved in the return of equipment and supplies from South Vietnam.

The Sea-Land container ship Mayaguez was seized by Cambodians as the evacuation was nearing an end. Asked to provide professional mariners who could help recapture the ship, the MSC commander contacted the USNS Greenville Victory, then in Subic Bay. Within hours, six Civil Service crewmen were on their way and took part in the recapture of the Mayaguez—going aboard with U.S. Marines.

Typical of Admiral Moore's continuing regard for the highly skilled team of Civil Service mariners and the merchant seamen who manned chartered MSC ships was his effort to insure that all crewmen involved in the refugee lifts and the Mayaguez recapture were adequately recognized.

Every crewmen of every ship received a special citation from the Secretary of the Navy. The admiral personally visited many of the ships when they returned to the United States, and the six Mayaguez volunteers were invited to the White House to meet with the President. They also received medals from the Department of Commerce and from the Navy—the highest awards that could be bestowed upon them by those organizations.

There were, of course, many other problems in the past 2½ years. Mother Nature pitched a curve to MSC planners in 1975 when ice blocked the way of tugs and barges that annually resupply bases on the Alaskan north slope. Vital cargo was airlifted to its destination but some did not get through. That resulted in a still continuing effort to strengthen the capabilities of assets used in this resupply operation—and to secure more valid long-range forecasts that would make it possible to better predict future ice conditions.

During the withdrawal of U.S. forces from Thailand in 1976, MSC controlled ships made 22 voyages between March and July to move more than 163,000 measurement tons. To meet the deadline, some ships had to be sailed in ballast from the United States.

Another highlight of the past 2½ years has been the continuing success of MSC ships and crews in support of the Navy combatant fleet. Recently USNS Taluga made its 1,000th replenishment when it pumped fuel to the carrier USS Kitty Hawk. MSC now operates 17 ships which provide dedicated support to the fleet and Navy acceptance of the Civil Service crews has been universal.

Admittedly tight with the taxpayer's dollar, always ready to listen to the views of those who make up the commercial industry and the agencies MSC supports, a believer in the ability of management to establish goals and to gain employee support for those goals, and strongly committed to recognizing the achievements of those who get the job done, Rear Adm. Sam H.Moore will be handing over a "tight ship" when he relinquishes command of the Navy's sealift operating agency to Rear Adm. John D. Johnson, Jr. on June 30.—L.C.M. ⚓

Changes of Command

Capt. Herman E. Fritzke, Jr.

MSC organizational charts soon will be outdated as many command officers depart, their successors arrive, and others switch to new positions.

At MSC headquarters in Washington, Rear Adm. Sam H. Moore will retire in June, turning over the helm to Rear Adm. John D. Johnson, Jr., now deputy director for logistics for the Joint Chiefs of Staff.

Changes also are being made in the area commands. Capt. Herman E. Fritzke, Jr., former MSC, Atlantic chief of staff has replaced Rear Adm. Frank B. Guest, Jr., who died in March. Capt. Charles Christensen, Jr., the commander of Service Group One, will succeed Rear Adm. John Coughlin as MSC, Pacific commander, who will become director, Logistics Plans Division for the Chief of Naval Operations, with additional duty as naval advisor to the Assistant Secretary of Commerce for Maritime Affairs.

Captain Fritzke was commissioned as an ensign in the U.S. Naval Reserve upon graduating from the U.S. Merchant Marine Academy, Kings Point, N.Y. in 1948.

After sailing as a deck officer on ships of the Grace Line he worked in the line's New York office. He was ordered to active Navy duty in 1952 and served with MSC in Seattle and

in Washington. He also sailed on the USNS Boyce, USNS Funston and the troopship USS W. A. Mann.

In February 1954 he returned to civilian life working in the Luckenback Steamship Co. traffic department in San Francisco. Captain Fritzke returned to the Navy in 1955 as operations officer and navigator aboard the destroyer tender USS Piedmont.

Captain Christensen was born in Yonkers, N.Y., Aug 5, 1927. He graduated from the New York State Maritime Academy in 1947 and received a bachelors degree in Far Eastern studies from Cornell University in 1959.

Before active duty with the Navy, Captain Christensen worked as a merchant marine officer with American President Lines, Seas Shipping Co. and American Hawaiian Steamship Co.

During 21 years active Navy duty, he has served as first lieutenant on the aircraft carrier USS Essex, executive officer of the destroyer USS Harry E. Hubbard, and commanding officer of the destroyer USS O'Brien.

He also was operations officer and assistant plant officer for Service Force, Pacific, and assistant for strategic plans and fleet force requirements, Pacific Fleet.

In 1971, Captain Christensen was one of 12 ship commanding officers selected to participate in Admiral Elmo Zumwalt's command excellence forum.

Admiral Coughlin was born in Everett, Wash., March 30, 1927. He entered the U.S. Naval Academy in 1946. Following graduation in 1950, he took flight training at the Naval Air Basic Training Command, Pensacola, Fla. As a naval aviator, he served at naval air stations in Agana, Guam and Whidbey Island, Washington.

He studied at the Naval Post Graduate School, Monterey, Calif. where he received a master of science degree in engineering electronics in 1958. He had duty with Heavy Attack Squadron 10 and Patrol Squadron 17 as detachment officer at Whidbey Island until June 1960.

Admiral Coughlin headed the avionics section of Air Development Squadron One at Key West, Fla., from August 1962 to January 1965, then attended the Armed Forces Staff College at Norfolk, Va.

He reported in July 1965 as officer in charge of Detachment A of Patrol Squadron 31 at Naval Air Station, Moffett Field, Calif., and in February 1966 transferred to Squadron 22 at Barber's Point, Oahu, Hawaii. In November 1967

Rear Adm. John T. Coughlin

he joined the USS Princeton as navigator. Detached from the Princeton in October 1968, he served as project officer of Fleet Air Wing Five.

In January 1970, he became executive assistant to the commander of the Naval Electronics Systems Command, Washington, D.C. His nomination for the rank of rear admiral was approved by President Richard Nixon in March 1973.

In December 1973 Admiral Coughlin was named assistant deputy director of operations (command and control), J-3, Joint Chiefs of Staff. In July 1975 he took command of the Twelfth Naval District and the San Francisco Naval Base. In August he assumed additional duties as commander of MSC, Pacific.

Capt. Thomas Kiefaber

Capt. Thomas Kiefaber, the MSC representative on the staff of the commander of U.S. Army, Europe in Stuttgart, Germany, will relieve Capt. Joseph Culbert as commander of MSC, Eastern Atlantic and Mediterranean.

Captain Culbert will take command of the MSC, Gulf Subarea command, relieving Capt. Robert Richards who will report for duty at MSC, Atlantic.

Captain Kiefaber headed an MSC unit at DaNang, South Vietnam and was acting chief of staff for operations and plans, MSC, Eastern Atlantic and Mediterranean. He has been stationed in Europe since August 1976.

Captain Culburt took command of MSC, Eastern Atlantic and Mediterranean in June 1975 after having served there as acting chief of staff for operations since May 1973.

Captain Richards, a graduate of the Massachusetts Maritime Academy, has been MSC, Gulf Subarea commander since October 1974.

Other changes in the worldwide organization include:

Cmdr. Arnold Marsh, Joint Chiefs of Staff, relieves retiring Cmdr. Walter Carpenter, deputy director of MSC tanker division.

Capt. James Raymond, Defense Logistics Agency, Cincinnati, relieves retiring Capt. William Chadwick as MSC contracting officer.

Lt. Cmdr. Edward Randell, Defense Intelligence Agency, relieves retiring Lt. Cmdr. Robert L. Bowers as MSC assistant for Naval Control of Shipping Organization.

Lt. Cmdr. Katharin Laughton, chief of Naval Education and Training, Pensacola, Fla., relieves Lt. Cmdr. Joseph A. Stewart as MSC

assistant director of integrated sealift study, sealift information system. Commander Stewart will retire.

Cmdr. R. D. Mathews, Naval Sea Systems Command, relieves Commander James Simmons, who is retiring, as MSC deputy engineer.

Capt. William Janes, commander Service Squadron Two, will relieve Cmdr. Joseph Brubaker as director of the Atlantic cargo division.

Capt. Floyd Rabun, commanding officer of the Mine Warfare Inspection Group, Charleston, S.C., relieves Capt. Max Lasell as MSC, Pacific chief inspector. Captain Lasell will relieve Capt. Harry Hart, MSC, Pacific Chief of Staff who will retire.

Lt. Cmdr. William Scott, Joint Chiefs of Staff, Washington, D.C., has relieved Cmdr. Howard Dunlap as head of the administration division. Commander Dunlap succeeds Capt. Ronald Kerslake, assistant chief of staff for operations, MSC, Eastern Atlantic and Mediterranean.

Captain Kerslake relieves Captain Kiefaber as MSC, Europe representative at Stuttgart, Germany.

Cmdr. James Jordan, Chief Staff Officer, MSC, Mediterranean, will relieve Cmdr. John Eckert, commander of the MSC Office, London. Eckert succeeds Capt. John Kearney who will become Navy liaison officer at Coast Guard Headquarters in Washington, D.C.

Lt. (j.g) John Stevens of the USS Bausell relieves Lt. (j.g.) Edward Bodenheimer in the MSC tanker division. Lieutenant Bodenheimer is resigning his commission.

Capt. Bennie Ricardo, Joint Chiefs of Staff, relieves Capt. John Scott as director of the MSC cargo division.

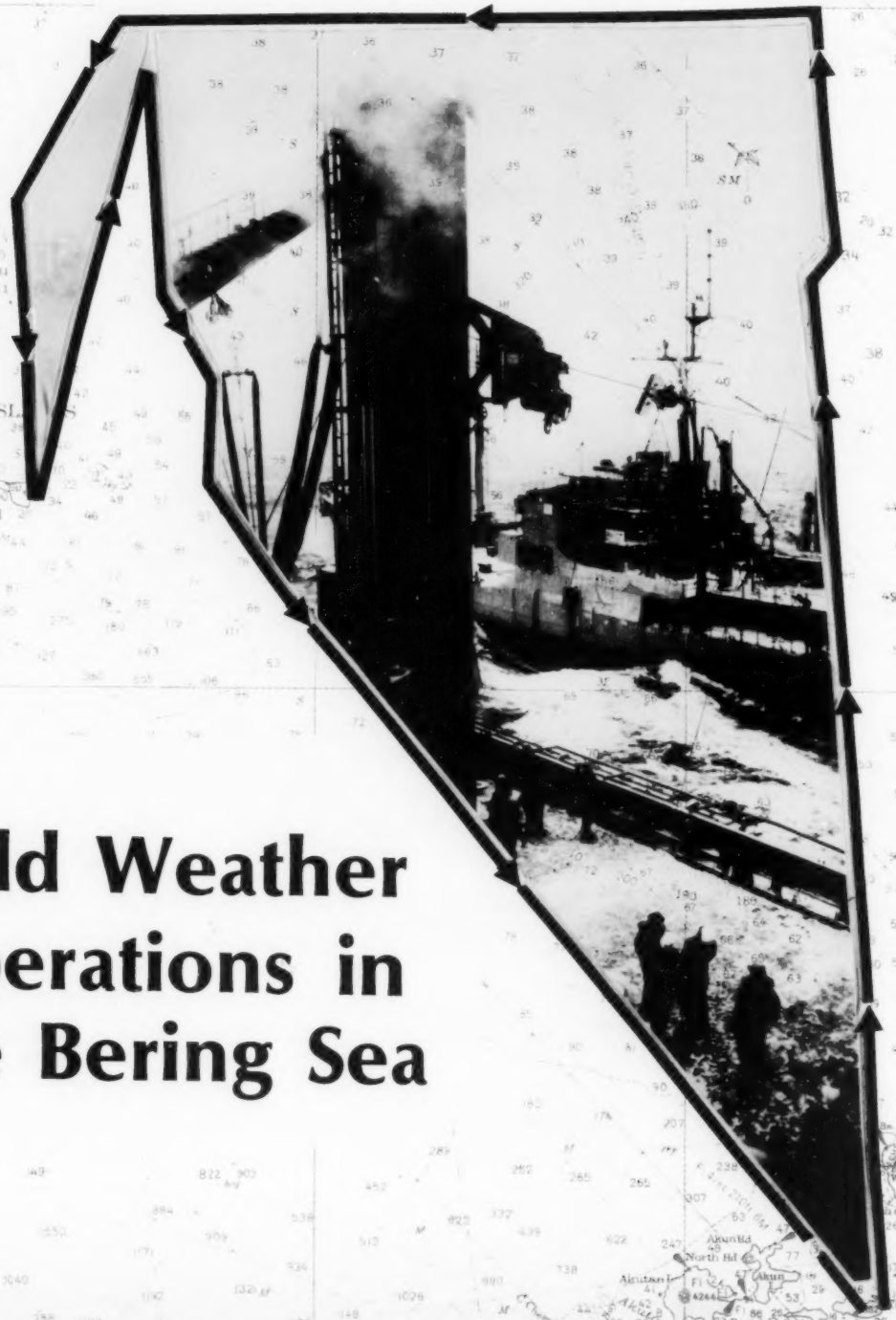
Captain Scott will replace Capt. George Hart, MSC assistant chief of staff of operations, and Captain Hart will replace Capt. Walter Kennedy, MSC assistant chief of staff for administration and manpower, who will be transferred to the Atlantic Fleet, Norfolk, Va.

Lt. Col. Leroy Gonzales, U.S. marine Corps First Brigade, relieves Lt. Col. Wallace Fogo as liaison officer with the Joint Chiefs of Staff and Marine Corps.

Cmdr. Thomas Morin, Destroyer Squadron 26, relieves Cmdr. Donald Mitchell, MSC, Far East, as assistant chief of staff for operations and plans.

Lt. Paul D. Oberender, First Marine Division, Camp Pendleton, Calif. will relieve Lt. Thomas A. Han in the MSC Office, Philippines and serve as operations officer. ⚓

Capt. Charles Christensen, Jr.



Cold Weather Operations in the Bering Sea

By Louis Panarale

There is no generation gap between the oldest and newest Third Fleet oilers, USNS Taluga and USS Roanoke, as was proven when the two ships took part in cold weather operational tests in the Bering Sea in February 1977.

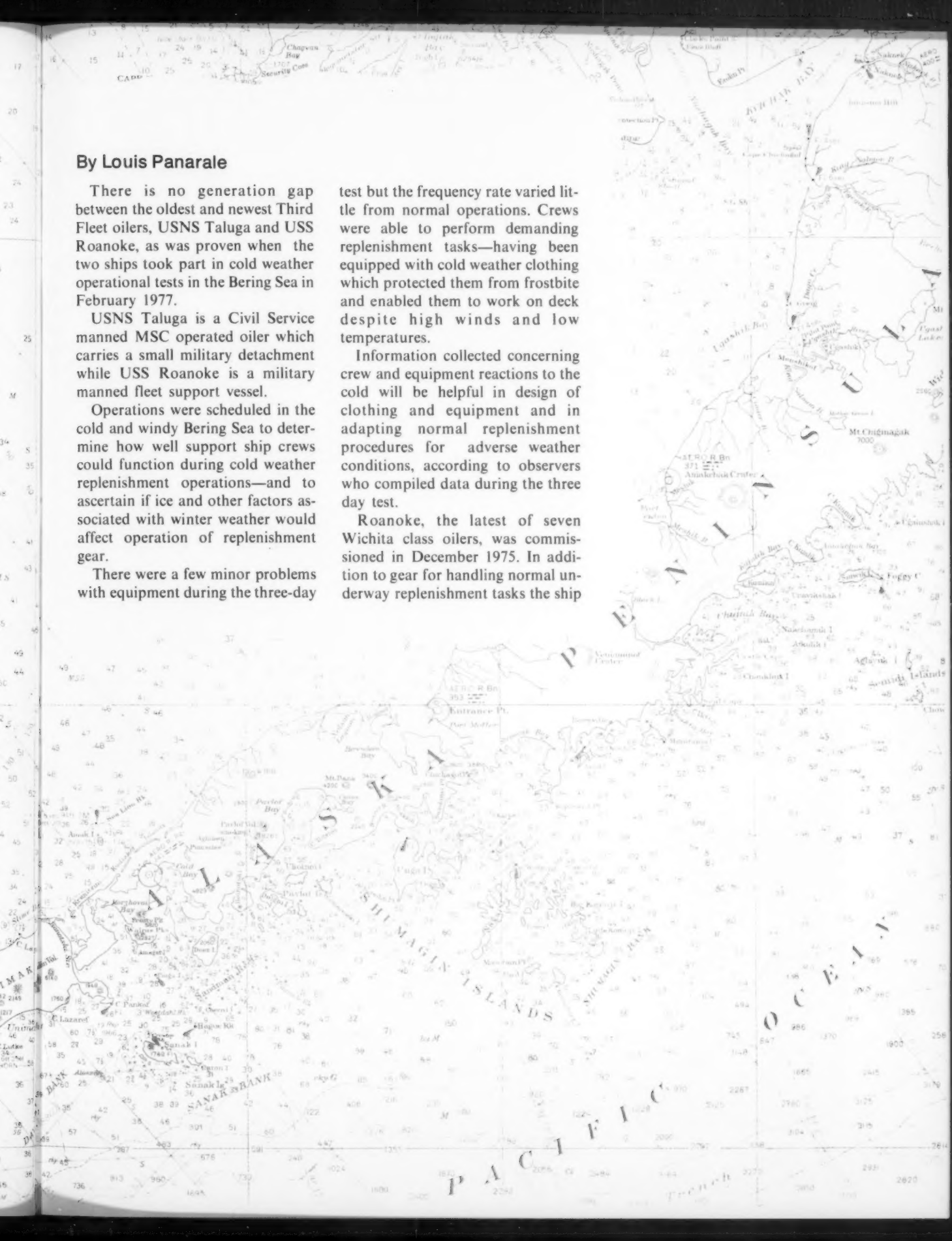
USNS Taluga is a Civil Service manned MSC operated oiler which carries a small military detachment while USS Roanoke is a military manned fleet support vessel.

Operations were scheduled in the cold and windy Bering Sea to determine how well support ship crews could function during cold weather replenishment operations—and to ascertain if ice and other factors associated with winter weather would affect operation of replenishment gear.

There were a few minor problems with equipment during the three-day test but the frequency rate varied little from normal operations. Crews were able to perform demanding replenishment tasks—having been equipped with cold weather clothing which protected them from frostbite and enabled them to work on deck despite high winds and low temperatures.

Information collected concerning crew and equipment reactions to the cold will be helpful in design of clothing and equipment and in adapting normal replenishment procedures for adverse weather conditions, according to observers who compiled data during the three day test.

Roanoke, the latest of seven Wichita class oilers, was commissioned in December 1975. In addition to gear for handling normal underway replenishment tasks the ship



is equipped with a landing platform for use by helicopter crews in vertical replenishment operations. Roanoke also carries weapons and munitions and has a limited capacity for delivery of fleet freight and provisions.

Taluga is a battle-tested and beribboned oiler of World War II vintage. The Navy transferred her to Military Sealift Command in May 1972, the first underway replenishment ship operated by the command. While she was overhauled and modified, civilian crewmen began training to handle the intricate job of underway replenishment.

During the operation, the two ships hooked up using some of the latest underway replenishment rigging to identify problems that might occur in cold weather. Observers on each ship evaluated the efficiency of equipment and monitored performance of the crewmen.

Previously, the USS San Jose, a combat store ship, carried out similar cold weather operations but did not have a receiving ship along for actual replenishments.

Taluga was under the command of Capt. Lloyd R. Haugh, and Roanoke was commanded by Capt. Paul Asmus. During the exercises, the ships alternated in role of support ship. One of the observers aboard the Roanoke was Capt. Charles Christensen, Jr., the commander of Service Group One who will succeed Rear Adm. John Coughlin as MSC, Pacific commander in June.

Captain Haugh said those involved in the test generally felt that with "proper planning and coordination cargo and fuel transfer can be conducted safely and efficiently despite bad weather and low temperatures."

Commenting on the performance of his own crew, he said they "responded to the rigors of cold weather underway replenishment with real professionalism."

Roanoke reported no significant unrep equipment problems. "Both

A dry cargo transfer line using constant tension rigs leads from the USS Roanoke (foreground) to the Taluga.

Working on a slippery deck demands strict attention to the task at hand.

One lesson learned during the exercise is that work clothing should be less bulky and more protective.

conventional and vertical replenishment operations can be handled efficiently in temperatures down to 19 degrees Fahrenheit," Capt. Asmus reported.

Roanoke reported a problem familar to all those who live in the northern United States. Snow removal crews were needed to keep traffic lanes open on deck for drivers of forklifts who had some problems with traction. They also sanded the Roanoke decks so that cargo could be moved safely by forklift crews.

As a result, observers recommended that deck areas on replenishment ships not now covered with a non-skid surface be treated. It was also recommended that areas where people would be walking, such as around winches and atop hatch covers, also be made skid proof to avoid falls and injuries.

The Roanoke's CH-46D Sea Knight helicopter shuttled between the two ships in temperatures from 19 to 40 degrees in light to moderately heavy snow and varying wind conditions.

The helicopter was checked during vertical replenishment operations for any signs of severe and dangerous icing. "Flight deck operations were handled safely with no major problems created by snowy conditions," Haugh said.

Vertical replenishment crews experienced some discomfort from the cold. On the first day of the exercise winds were close to 40 knots and temperatures were around 35 degrees with a chill factor of minus 10 degrees.

On the second and third days it snowed. The wind was from the stern at 20 knots and the temperature was 19 degrees.

All underway replenishments during the last two days were performed downwind, reducing the chill factor from a minus 10 degrees to 18 degrees.

Flight deck crewmen on the Taluga who were continuously exposed to the cold, had problems keeping their feet warm. Their steel-tipped boots were poor insulators.

Roanoke crewmen reported the same problem.

On the Roanoke, crewmen who had to kneel next to the landing gear of the helicopters, while awaiting the signal to remove tie-down equipment, found that their knees became very cold and damp.

A number of recommendations were made for redesign of cold weather clothing. For example, it was recommended that crewmen working in a kneeling position at the helicopter ramp wear weather-proof knee pads outside their normal cold weather clothing. It was also recommended that:

* Weather deck crewmen should have water-proof rubber insulated boots as standard issue. Steel-toe safety boots should be insulated to prevent frost bite.

* A special five-fingered glove should be worn over woolen inserts. The glove should be of neoprene plastic, resistant to petro chemicals and salt water and should have roughened palms for good gripping.

* Anyone exposed to spray and wind from helicopter blades should wear a turtleneck sweater. Scarves and mufflers should not be worn because they can get caught in machinery.

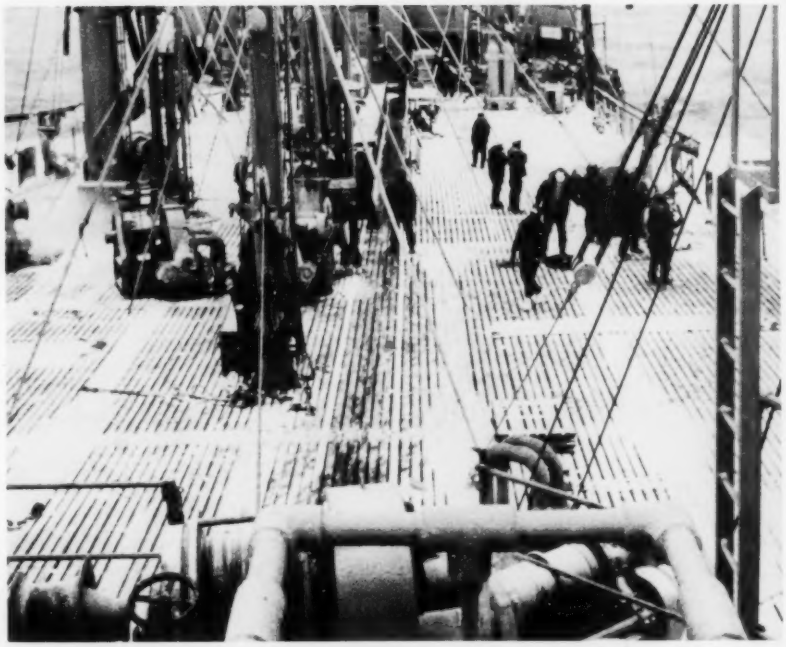
* The traditional watch cap could be improved if made like a ski mask with holes for the eyes, nose and mouth and designed so that it could be rolled down over the face.

* Some provisions should be made so that phone operators can hear while wearing hoods to protect them from the cold weather.

* Crewmen exposed to petro chemical products should wear rubberized overalls, jackets and gloves over their cold weather clothing.

Overall, those who took part in the test felt that considerable information had been gained and that it would be invaluable in planning for actual cold weather operations. All findings and recommendations have been forwarded to the Naval Ship Weapons Systems Engineering Station at Port Hueneme, Calif. for study and further action. ⚓

Taluga crewmen move about on a snow covered deck before underway replenishment with the USS Roanoke.



Both Helmsmen Johnnie Medlock (left) and Leo Strizich are required on the bridge during underway replenishment operations.

A scene from the past shows Meteor in port near Saigon where it delivered wheeled, tracked and amphibious vehicles during the war.

S-O-S Meteor to the Rescue

By Linda M. Quinones

On March 13 the Military Sealift Command roll-on, roll-off ship USNS Meteor, commanded by Capt. Robert L. Rhoads, was heading toward Midway Island from Pearl Harbor carrying general cargo. The day was partly cloudy, with temperatures hovering around 70, although small craft had been cautioned that bad weather would be prevalent throughout the Hawiian Islands.

When Meteor was about seven hours out of Pearl Harbor the U.S. Coast Guard communications center in Honolulu broadcast a distress message reporting the 64-foot yacht Moksha was sinking. Vessels in the area were asked to assist.

Meteor changed course to pass between Niihau and Kauai Islands

and headed for the ferro-cement yacht. Meteor was 62 miles away, a distance that would take the ship three hours to cover.

Meteor reached the Moksha at 4:40 p.m. and ship engines were cut to maneuvering speed. A Coast Guard helicopter already on the scene had passed two pumps to the Moksha which was flooding.

Captain Rhoads cautiously moved the 540-foot Meteor close to the yacht but voice communications were not possible and radio contact between the yacht and helicopter had broken off.

Meteor hove to about 500 yards from the yacht as Moksha personnel readied their dingy. At 5:38 p.m. the dingy was brought alongside and Moksha owner and captain Dr. Monty Downs boarded Meteor.

Downs said the yacht carried seven other people, three women, Jeannie McDaniel, Karri and Kim Knisley, and four men, David Moranz, Dan Marshall, Dennis Fontany and John Barreto. All were from Kappa, Kauai, Hawaii.

He said flooding aboard the yacht had shorted out the electrical system and caused communications to break down. He reported also that the Coast Guard pumps had run out of fuel and floating debris was clogging strainers and preventing the pumps from operating.

Meteor carried no gasoline but did have a small amount of kerosene aboard. Captain Rhoads ordered lifeboat number two readied to deliver the fuel and a 12-volt battery to help reestablish communications. Two men from the engineering department went along to assist with the pumps.

By 6:13 p.m. lifeboat number two was waterborne. However, while enroute to the yacht its water pump failed and its diesel engine overheated. Despite these problems, the lifeboat crew made it to the yacht and evacuated the three women passengers and a man who was exhausted from diving to locate the source of flooding.

Efforts to operate the pumps with kerosene failed since their engines had cooled off after running out of gasoline. The Meteor radio operator called the Coast Guard in Honolulu and requested more pumping equipment and the Joint Rescue Control Center in Honolulu reported it was dispatching a C-130 helicopter with the equipment.

With darkness rapidly approaching, Captain Rhoads concluded that recovery of the air-dropped pumps from a lifeboat would be difficult, if not impossible. In addition, only one of the two lifeboats Meteor carried was operational.

Taking these factors into consideration, a joint decision was made that those still on the yacht should abandon the vessel and that the request for additional pumps should be cancelled.

Lifeboat number one was used to evacuate four people from the yacht while the Meteor radio officer notified Coast Guard to abort delivery of the pumps. Coast Guard requested that Meteor remain in the vicinity until the Coast Guard cutter Cape Corwin arrived on the scene.

Cape Corwin arrived around midnight and its crew launched a Boston Whaler with pumps to restart the salvage effort. Three hours later, the cutter master notified Captain Rhoads that he was abandoning the effort because of problems keeping suction strainers free of debris.

The whaler was brought alongside Meteor and the crew offered to transfer the crew of the yacht to the cutter Cape Corwin for return to Hawaii. The offer was declined by the survivors who were suffering from fatigue and felt that the night transfer from the whaler to the cutter would involve unnecessary risk.

At 3:43 a.m. Meteor got under way for Midway Island with all eight survivors on board. Cape Corwin remained on the scene.

Moksha disappeared from the radar screen at 4:10 a.m., and it was assumed the yacht sank.

Captain Rhoads praised Meteor crew members for their efforts, noting that the overall performance of his crew was exceptional. They provided food, clothing and accommodations to the Moksha crew members.

In his report on the rescue Captain Rhoads offered several comments regarding performance of Meteor lifeboats and their equipment in rescue missions.

"Use of lifeboats in rescue efforts in even moderately adverse conditions remains a problem," he said. "The boats and davits are designed to get people safely away from a ship in distress, not to return them.

"The slow acting winch causes the boats to jar heavily after hooking on when seas and swells alternately lift them and then drop away beneath them. The falls invariably have one or more turns in them and when coordinated hook-on of the heavy blocks is imperative there is not time to straighten out the turns.

"The most serious problem involved the latching locks on the boat lifting hooks. These devices, designed to prevent accidental unhooking of the lifeboat while still waterborne, failed on both boats and the falls unhooked at the aft end during the critical period before the boat cleared the water.

"With the swell rising and falling 10 feet, in addition to the ship's moderate rolling, the boats were tipped to precarious angles and were in danger of swamping while the winch slowly lowered the raised end so that a new hook-on effort could be started."

⚓

After its launching in 1964, the 25-foot Alvin became a workhorse for scientists who were delighted with its maneuverability at depths of 5,000 feet.

Man Beneath the Sea

By Louis Panarale

Man has always had an insatiable desire to learn about the world he lives in. Through the ages he has risked life and limb to scale mountains, penetrate jungles, traverse deserts and journey through outer space. His pursuits have been motivated by more than curiosity and in the early ages were primarily in search of food and materials needed for survival.

Of all physical barriers, the ocean depths were and still are one of the most difficult and mysterious. As a

land animal, man could not hope to survive very long below the surface without a supply of air.

While he has dreamed of plunging to the bottom of some watery realm to uncover its mysteries for the estimated half million years he has inhabited earth, only in recent years has he had sufficient understanding to ask meaningful questions about the sea around him. Only recently has he ventured safely into the depths and begun to unravel some of the ocean's mysteries.

Some four centuries before the birth of Christ, Aristotle wrote of small diving bells used by sponge divers who regularly worked at depths of 75 to 100 feet. The bells were inverted bowls weighted down by stones. The divers would periodically stick their heads in the bells to replenish their air without resurfacing. The air in the bells was resupplied by skins filled with air and lowered from the surface.

For centuries inventors all over the world sought to develop ways of making deeper or longer dives. But, for more than 2,000 years there was no record of anyone diving safely to a depth of more than 300 feet. It took 20th century technology to open the way for descent into much deeper water.

Inventor Simon Lake of Pleasantville, N.J. is generally credited with building the first submarine to operate in the open seas. In 1897 he built the Argonaut, a 36-foot wooden vehicle powered by a 30-horsepower gasoline engine. Air for the engine and crew of the Argonaut was drawn from the surface through a hose attached to a buoy. The Argonaut had wheels for movement along the bottom and in 1898 it voyaged about 300 miles from Norfolk, Va. to New York City. It is doubtful, however, that the wheels were much help.

The Argonaut and another submarine built by Lake in the early 1900s were not capable of diving very deep though men wearing heavy metal diving suits were reaching 600 feet. They paid dearly, however, suffering agonizing pains in their muscles and joints.

A revolution in technology was needed to make significant progress and in 1932 the revolution came. William Beebe and Otis Barton of the New York Zoological Society descended into Bermuda water in a device called a bathysphere.

Suspended by a long line, the steel ball-like bathysphere hung like a pendulum in the water. To say that the descent was record-shattering is putting it mildly. The bathsyphere reached a depth of 3,028 feet. Beebe and Barton stayed below for several hours in the cold and darkness of the sea where no living man had ever gone before.

In recalling the historic dive, Beebe wrote: "When once it (the deep ocean) has been seen, it will remain the most vivid memory in life solely because of its cosmic chill and isolation, the external absolute darkness and the indescribable beauty of its inhabitants."

The bathysphere was 54 inches in inside diameter and 1½ inches thick. The entrance was sealed by a 400-pound steel door. Each man could view the surroundings through 8-inch diameter glass viewports. Oxygen was supplied from two 80-gallon tanks and carbon dioxide removed by circulating air through soda lime.

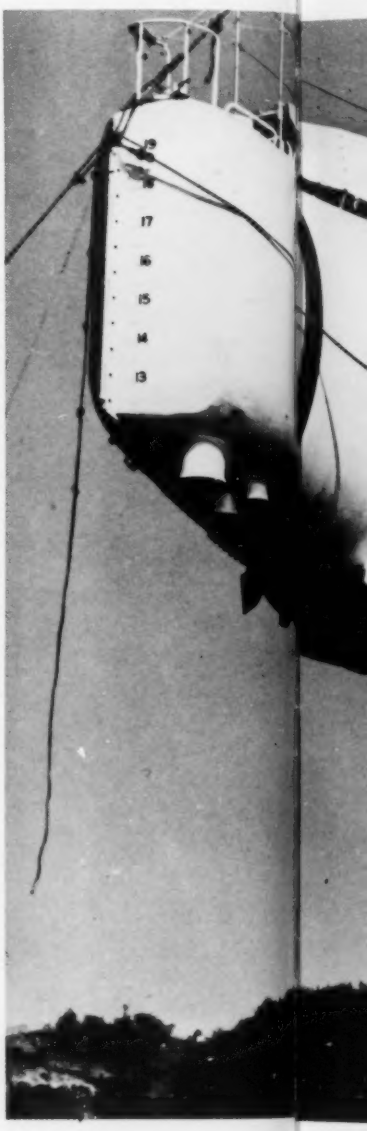
Having proved that he could get down into that dark and mysterious netherworld of the sea, man was inspired to do more. Ironically, the next breakthrough came from members of a Swiss family who had gained renown as pioneers in balloon ascents into the upper atmosphere.

In 1932, the same year that the bathysphere made its historic sea dive, Auguste Piccard reached a height of 55,563 feet in a balloon. His balloon had many innovative features, including an airtight pressurized cabin.

As a child, Piccard also had been fascinated by the sea and the mysteries that it held. As a young student, he conceived of submersibles that could withstand great pressures and still be maneuverable.

Piccard's plan was to build a spherical submersible that he called a bathyscaphe. Just as the crew of his balloons released ballast to rise into the atmosphere, the bathyscaphe crew would do the same to ascend from ocean depths.

World War II interrupted construction of the first bathyscaphe



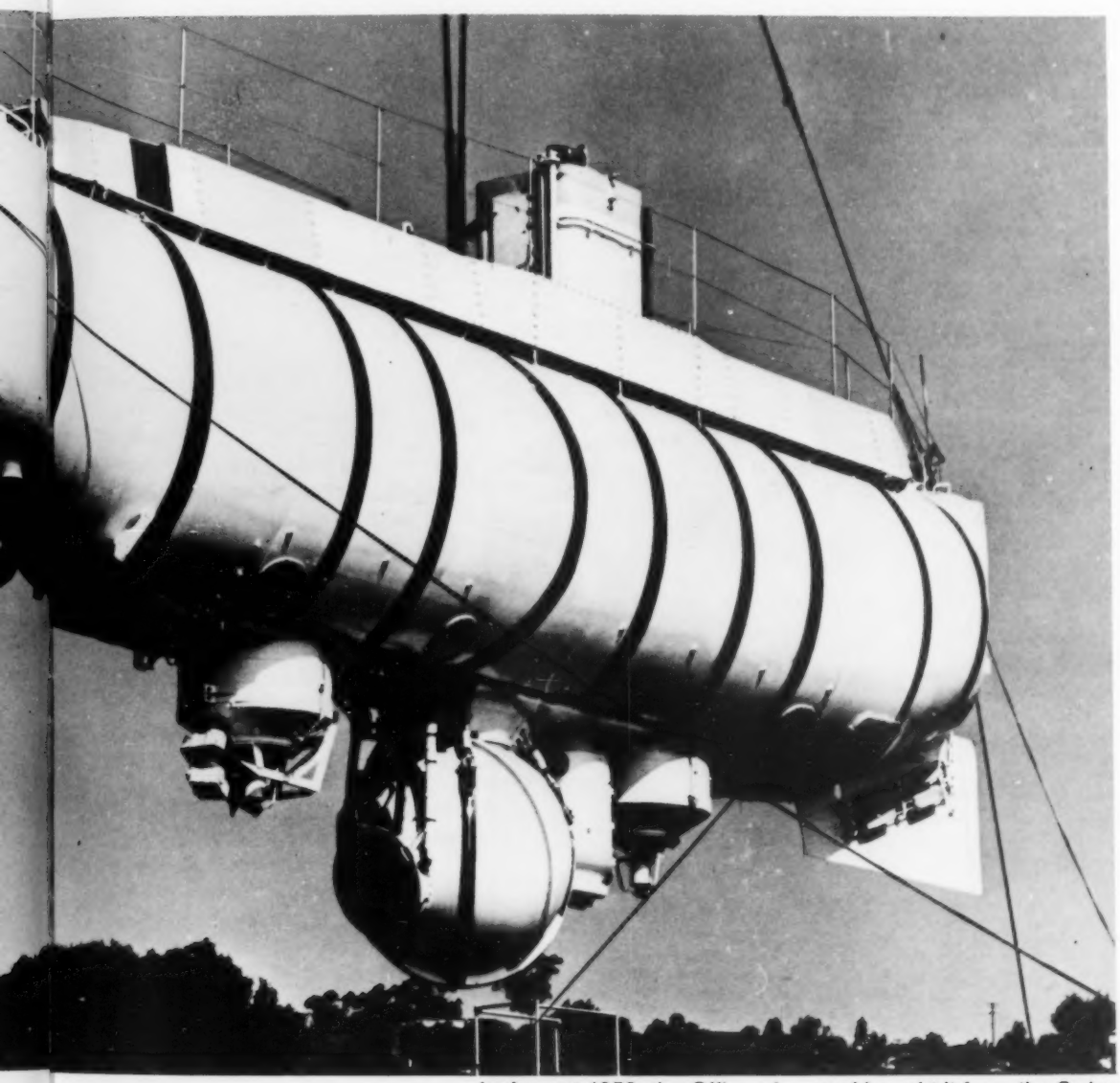
(FNRS-2) which made a successful unpiloted trial dive in 1938 off the coast of Senegal. The cabin easily withstood pressures at 4,600 feet although the float was severely damaged by a heavy swell of water after the dive.

Piccard and his son, Jacques, with financial aid from the Swiss government and Italian industry, made plans to build an improved bathyscaphe. On Aug. 1, 1953 the Trieste was launched off Naples and descended to a record 10,330 feet.

While a French bathyscaphe recaptured the diving record from the Trieste by reaching 13,280 feet, Trieste continued to make dives that brought it world renown.

In August 1958, the Office of Naval Research recognized the enormous potential of the Trieste and bought it from Piccard. Navy Lieutenant Donald Walsh was the officer in charge of the Trieste.

On Jan. 23, 1960 Walsh and Jacques Piccard were ready for the



In August 1958, the Office of Naval Research recognized the potential of the Trieste and bought it from the Swiss oceanographer Auguste Piccard.

ultimate trial, a dangerous descent into Mariana Trench in the Pacific, the deepest part of all oceans—36,000 feet down.

The sea was rough when the Trieste began its early morning descent. At 1,000 feet Walsh and Piccard were aware of only a faint trace of light. Suddenly, they entered a layer of luminescent organisms, then darkness again enveloped them.

Forgetful of the crushing pressures that surrounded the bathyscaphe, they stared out of the porthole at strange forms of marine life never observed by man. Finally, their lights revealed the bottom. They still saw fish even though the water pressure was 16,000 pounds per square inch.

Then they landed. Piccard and Walsh had reached the deepest part of the ocean, 35,800 feet—seven miles down. They were in a world never seen by the eyes of man and had pioneered a means for scientific exploration of the depths of the sea. Their historic dive had more than a depth record as its purpose. Sound profiles and continuous temperature readings were made through the entire length of a water column seven miles deep, providing information of vital interest to the Navy.

Trieste was a milestone soon followed by an improved version, Trieste II, built by the Navy. Like its predecessor, Trieste II could only go straight up and down. A submersible was needed that could maneuver and be free to prowl the ocean floor wherever its pilots and scientists wanted to take it.

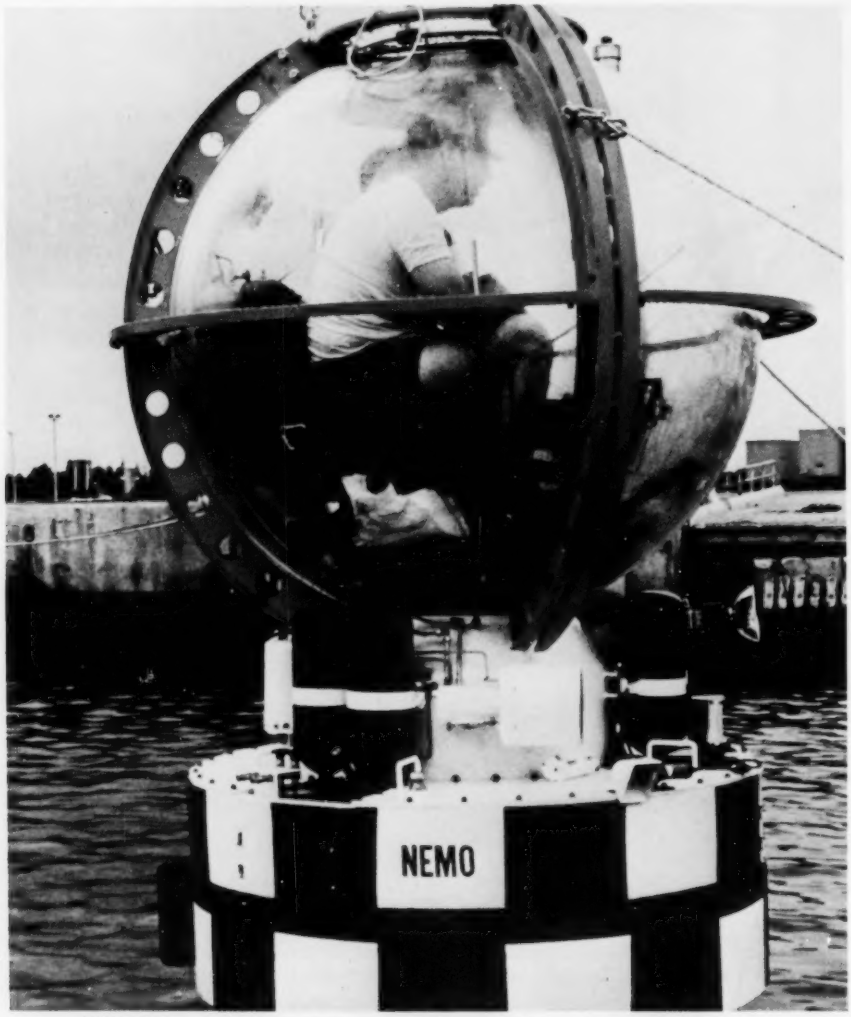
The Office of Naval Research began to develop just such a vehicle. In 1964 at Woods Hole, Mass., a new submersible was christened Alvin. At a maximum diving depth of about 5,000 feet, Alvin could be maneuvered at the speed of a slow walk. Not very fast, but scientists had too much to see to be concerned about speed. As one scientist put it, "Would a child run through a toy store?"

Scientists made some valuable findings with Alvin, such as the discovery of a stratum of organisms that creates false bottom readings, a phenomenon that had puzzled the Navy for years. Dr. Richard Backus of Woods Hole (Mass.) Oceanographic Institute, who helped solve the riddle, said he still marvels at how much he learned in one undersea exploration with Alvin.

"There is absolutely no substitute for observing things first hand," Backus stated in the undersea documentary film "Return to the Sea" produced by the Office of the Oceanographer of the Navy. "Any other approach will give ambiguous results." Questions he had asked for 10 years were answered in 10 hours with the aid of the Alvin.

In October 1968, Alvin was being hoisted to her support ship when a cable broke. The crew escaped but Alvin dropped 5,000 feet to the bottom. A year later, when Alvin was recovered, sandwiches and a thermos bottle of soup that the crew had left aboard were in a remarkable state of preservation.

That prompted Dr. Holder Jannasch of Woods Hole to conduct a series of experiments on decomposition rates below the ocean. He discovered that the breakdown of organic matter in the deep sea is



With the launching of Nemo in 1970, researchers gained an unobstructed view of ocean life. The Navy used this plastic-hulled submersible to study habits of certain sea life.

Technicians climb out of Deep View in 1971 after its first manned dive in 20 feet of water at the Undersea Research and Development Center in San Diego.

about 100 times slower than on land.

"This discovery put light on the question of disposing of organic waste materials in the ocean, Jannasch said. "If we are really interested in breaking down waste materials, then we must conclude that the deep sea is not the right area for a dumping ground."

The Navy continued to develop new submersibles. The clear acrylic bubble-shaped Nemo, launched in 1970, allowed two occupants a view in any direction while seated comfortably in plastic chairs. Acrylic plastic had undergone extensive development and testing and its capability as a hull material had been proven.

One scientist who had a compelling need for a submersible with a panoramic vision was Dr. Scott Johnson of the Naval Undersea Center, San Diego. Johnson was interested in observing dolphins, sea lions and sharks in their natural habitat.

"We can do some work in a controlled environment, such as in tanks where we can observe the animals," Johnson said. "But we really need to go to the deep ocean in the open environment to study sharks."

The Nemo gave Johnson exactly what he needed, a chance to study the shark's behavior from every angle. From his studies have come data which hopefully will provide ways of coping with sharks that are a threat to Navy divers or anyone looking to survive in the open sea.

Another member in the family of modern submersibles is the robot-like submersible Sea Cliff. It has arms which can be manipulated to pick up objects from the ocean floor.

In 1974 scientists went to Hawaii to study volcanic processes that have formed the Hawaiian Islands. In underwater probes with Sea Cliff, they discovered a wall-like formation.

The "pillow wall," as they called it, was a mile long, 20 feet thick and 200 feet high. Sea Cliff helped the scientists prove their theory on formulation of the wall when they saw molten lava pouring into the sea and adding to the existing wall.

There are many chapters in the history of man's efforts to function beneath the sea. Since the mid-1960s, hundreds of scientific and technological articles have been written about deep submersibles.

Several books have been published on activities of specific vehicles. One of the most exhaustive books on the subject is Manned Submersibles, written by R. Frank Busby and published by the Office of the Oceanographer of the Navy in 1976.

"Man's ancestors, it is said, left the ocean in primordial time," Busby wrote in the forward of his book. "Since recorded history it is evident he has tried with some success to return. In earlier days it was in wood and leather diving bells and suits. Now it is in steel and plastic shells. Whatever the means, it has always been man, never machines, against the sea." ⚓

Of all the physical barriers on earth, the ocean depths have been one of the most difficult to conquer. For centuries men made dives of several hundred feet in a wide assortment of undersea vehicles. The research submarine Deep Quest was launched by Lockheed Missiles and Space Corp. in 1967. In early trials it set a depth record for research submarines by diving to 8,310 feet. Deep quest is still one of the most sophisticated submersible systems in existence. For the story of other submersibles, see page 19.

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